Octagonal Handles -One strategy

Don McConnell

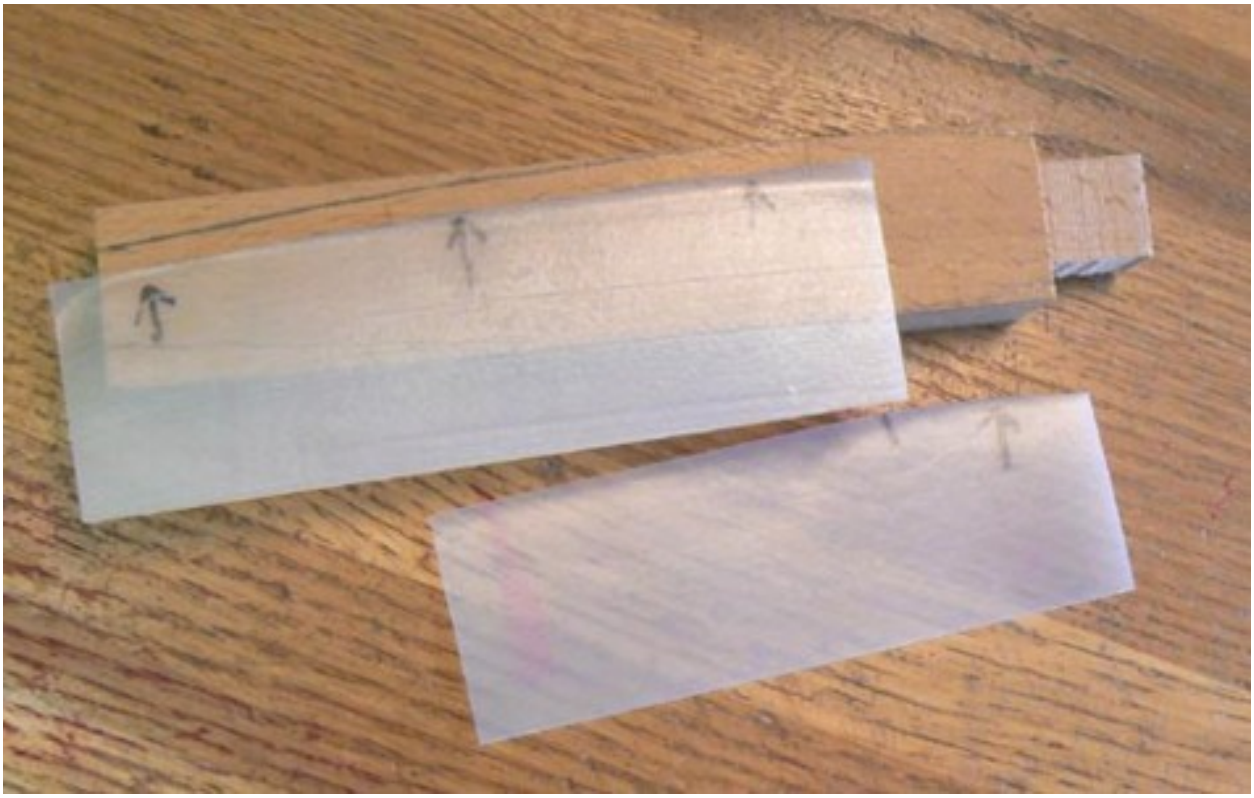
A few years ago, I owned a late eighteenth century Newbould chisel with a very nice octagonal handle. While I can't say it was original with any certainty, it was old and shared characteristics with other octagonal handles from that era. As best I could analyze, it swelled in a gentle curve through about three-quarters of its length, then diminished toward its end in a slightly quicker curve. I really liked it, so became intrigued with the possibility of making some handles using it as inspiration.

Here are few carving tool handles, of American elm, which I've made since:

Since I wished to make a number of these handles of different sizes, I decided to see if I could work out an approach which would give me relatively consistent results while allowing me to work in a very straightforward manner. In the hopes it could be of some help to others, I've decided to try and summarize my experience.

My first step was to create a template for laying out the very slow curve along most of the length of the handle. There are many ways to do this, and I would encourage people to find the one which gives them the results they like best. At the time, I had just gotten my first scanner, so merely drew a pencil line along the slowest curve of my largest french curve, then scanned it oversized until I arrived at a very slow arc which was suitable. I then made a template of the curve. Since I knew it needed to be flexible and reusable, I took a piece of the side of a milk carton, and used that for my template material. I also created a second template for the shorter, quicker, curve toward the end - this time working directly off a portion of one of my french curves.

Here is a photo of these very simple templates in conjunction with a handle blank:

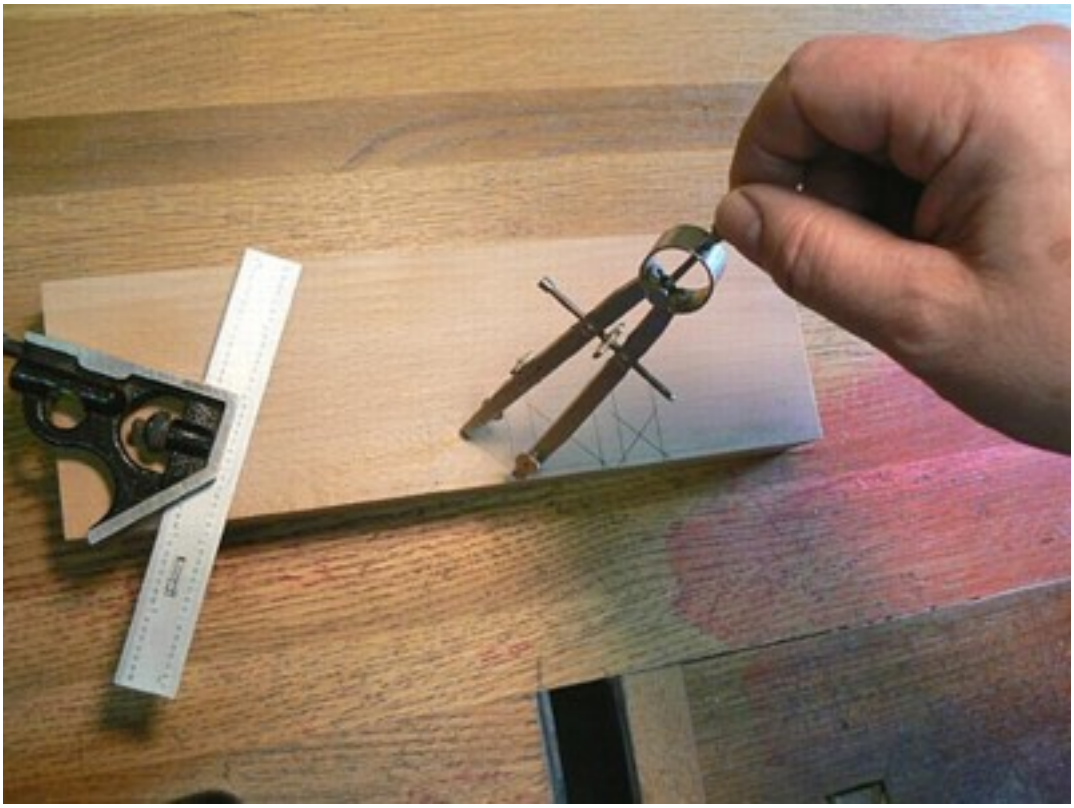


As I've indicated, the slower curve of the original handle swelled approximately three-quarters of the length of the handle. So, in making a new handle, I square a line around the blank at that point (not very visible in the photo), to establish where the two curves meet. Then, I establish the point, at each end, where the respective curves terminate. The dimension at the working end is determined by the width of the bolster, while the dimension at the other end is determined by what I deem to "look good." (Usually, about 1/8" in from each face.)

It is a good idea to square these dimensions across both ends of the blank for later reference. You can't do all the layout at once, as the shaping of each surface obliterates any layout lines on that face. My strategy is to layout and execute the curves for two opposing faces, then repeat for the remaining two. The result is a handle blank with four curving faces, ready to become an octagonal handle.

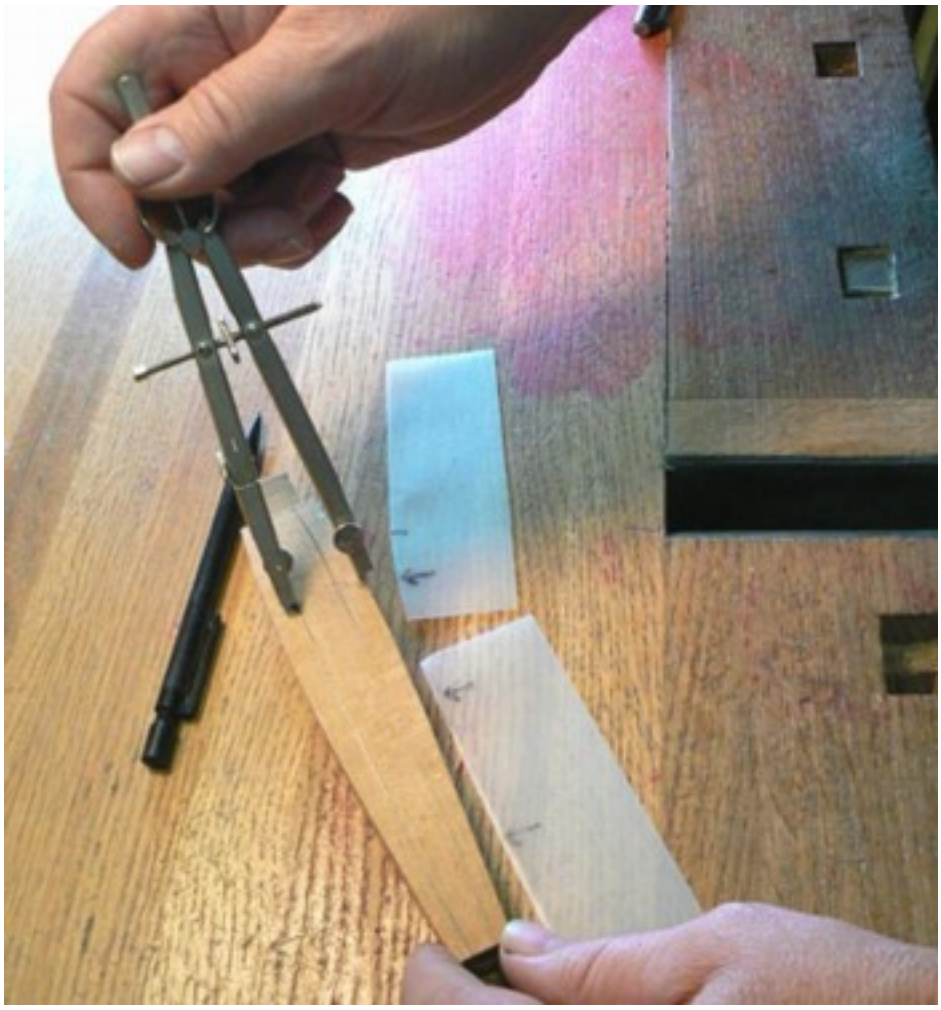
When it comes to laying out for the octagonal cross-section, I commonly make use of the simple geometric approach for creating an octagon within a square of known dimension. In brief, if you set a compass at each corner of the square, set to one-half the length of the diagonal of that square, and swing arcs to intersect with each adjacent side, the points of intersection define the corners of the octagon.

In this instance, I find it very helpful to use a scrap piece of wood, which has one straight edge, on which to set my compass for layout. I find it useful to gage a line a short distance from the straight edge, then measure off the three salient dimensions of the handle blank along that line. Those dimensions being at each end and the largest dimension at three-quarters of the length of the handle.



In the photo, I've squared lines at these points, then drawn the diagonals using the same combination square. If you use an awl to mark off the dimensions, you can then set the compass in the awl mark and directly adjust the other leg to the intersection of the diagonals. No need to finish drawing the squares.

You can then use the compass to make a short mark at each of the critical locations on each face of the blank. Next, using the templates, draw the curves to connect the marks. Since this shaping will not obliterate any layout lines, you can do all the layout at once.



You are now ready to remove the material to finish the octagonal cross-section.

As to the specific tools and techniques to use for shaping the original faces and the final octagonal form, I think much of that comes down to one's preferred working methods and the tools you have available. But, I thought I'd briefly discuss my general approach, in the hope it may prove useful to some folks.

Back at about the same time I ran across the Newbould chisel which started all this, I read, in R. A. Salaman's Dictionary of Tools, about a work holding device, used by wheelwrights. The last sentence of the description caught my attention:

> "The Fiddle. The spoke is pivoted between lathe-like centers, one of which is set upon a handscrew. It can thus be held tight enough for trimming and yet

turned conveniently by the user's hand. (The same device is used by handle makers.)"

I decided to make up a version of this "fiddle" for making handles.

Though it is just sitting on the bench in this photo, it is intended to be used in the face vise of your bench. (If you have appropriate bench dog holes and end vise, you could just make up the "poppets" and use them directly in the bench.) In any event, the "center" at the left of the fiddle allows clearance to work off the end of the blank while tapering, etc. Quick material removal can be done with a drawknife or a chisel, and cleaning/smoothing can be done with a spokeshave, float, and/or a small plane. And the blank can be quickly rotated or turned end-for end. All in all, I find it very handy.

The small square "waste" at the end is to be cut off after the major shaping, in preparation for finishing the end. That can be done to your taste, and can readily be accomplished with a chisel, rasp and file.

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